



UMODPC



Hazardous Material (HAZMAT) Orientation

612-302-03



Hazardous Material Definition



- “A substance or material which has been determined by the Secretary of Transportation to be capable of posing an unreasonable risk to health, safety and property when transported in commerce... The term includes hazardous substances, hazardous wastes, marine pollutants...”
- Title 49, Code of Federal Regulations



Definition of a HAZMAT Employee



- A hazardous materials employee is any person "...who directly affects hazardous materials transportation safety..."
 - Loads, unloads, or handles hazardous material;
 - Prepares hazardous materials for transportation;
 - Is responsible for the safety of transporting hazardous materials; or



Definition of a HAZMAT Employee (Cont)



- Operates a vehicle used to transport hazardous materials."
- What does this mean to you as UMO and to personnel in your unit? Any one who handles, packages or ships any hazardous material is considered an employee.

Title 49, Code of Federal Regulations



Definition of a HAZMAT Employer



- A hazardous materials employer is defined as "a person who uses one or more of his employees in connection with:
 - Transporting hazardous materials ... Causing them to be transported or shipped in commerce...
 - This term includes any department, agency ... of the United States."



Definition of a HAZMAT Employer (Cont)



- You, as the UMO, become an “employer” when you direct troops to load out a vehicle or container containing HAZMAT.
- Make sure you know what unit personnel must do to correctly handle, package and certify HAZMAT.



HAZMAT Awareness



- The minimal level of training established by DOT requires HAZMAT employees to:
 - Recognize & identify hazardous materials shipments
 - Understand the numeric hazard class numbering system
 - Understand the hazards presented by the nine United Nations (UN) hazard classes & their subdivisions





HAZMAT Awareness (Cont)



- Although the UMO *should not* be the HAZMAT certifier, the UMO must be aware of dangerous or potentially dangerous materials the unit is handling, shipping or storing
- Something as simple as a variety of consumer commodities could be potentially dangerous
 - Many "off the shelf" items from WD-40 to aftershave are classified by DOT as "Hazardous Materials"



Shipper's Certification



- Each person (shipper) who offers a hazardous material for shipment shall certify that the material offered is in accordance with the provisions of the applicable 49 CFR subchapter
- The person who certifies the information about the hazardous material must be certified according to 49 CFR, para 172.204 (a) (2)



Penalties for Non-Compliance --Civil



- "Knowingly" violating the regulations
 - Making an "honest" mistake, i.e. failing to know something that should have been known, or failing to catch the error even if known
 - For example, one shipment has an incorrect label
- Fine: \$250 to \$27,500 dollars per day per every error or violation



Penalties for Non-Compliance -- Criminal



- "Willfully" violating the regulations
 - Making a conscious decision not to follow the rules
 - + Example: Deliberately concealing or mis-declaring a shipment of hazardous material
- This is a *felony* offense & could result in fines of up to \$500,000 per day or up to 5 years in prison



Regulation Conflicts



- Always consult regulation for specific mode of transportation to be used to avoid conflicts





49 CFR



- Code of Federal Regulations for the transportation of hazardous material
- This publication is commonly referred as CFR 49





49 CFR – Key Paragraphs



- Useful paragraphs:
 - Para 171.8, Definitions & Abbreviations
 - Para 172.101, Hazardous Materials Table
 - Para 172.101, Appdx A, Table 1 - Hazardous Substances other than Radionuclides
 - Para 172.101, Appdx B, List of Marine Pollutants
 - Para 172.504, Table 1&2, Category of Material (Hazard class or division)
 - Para 172.704, Training Requirements



49 CFR – Hazardous Material Table



6 172.101 HAZARDOUS MATERIALS TABLE

System	Hazardous materials descriptions and proper shipping names	Hazard class or Division	Identification number	PG	Label Codes	Special provisions	Packaging (S (73.1))			PG		UN	Other
							Essential	Non-essential	Risk	Passenger aircraft	Cargo aircraft only		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8A)	(8B)	(8C)	(9A)	(9B)	(10A)	(10B)
D	Acrylonitrile, pure	P											
	Acrylonitrile, polymerized												
A	Acrylonitrile, emulsion, with flash point, not test.		2.2	NA 0955	2.2		168		216	None	No limit	No limit	A
	Acrylonitrile, polymerized, preservative or hydrolytic stabilizing agent (non-flammable gas)		3	UN 1035	3	3	150		216		216	5 L	60 L
A	Acrylonitrile monomer		3	UN 1035	3	3	150		216		216	5 L	60 L
	Acrylonitrile, emulsion		3	UN 1035	3	3	150		216		216	5 L	60 L
	Acrylonitrile, emulsion		3	UN 1035	3	3	150		216		216	5 L	60 L
	Acrylonitrile, emulsion		3	UN 1035	3	3	150		216		216	5 L	60 L
	Acrylonitrile, emulsion		3	UN 1035	3	3	150		216		216	5 L	60 L
A	Acrylonitrile, emulsion		3	UN 1035	3	3	150		216		216	5 L	60 L
	Acrylonitrile, emulsion		3	UN 1035	3	3	150		216		216	5 L	60 L
	Acrylonitrile, emulsion		3	UN 1035	3	3	150		216		216	5 L	60 L
	Acrylonitrile, emulsion		3	UN 1035	3	3	150		216		216	5 L	60 L
	Acrylonitrile, emulsion		3	UN 1035	3	3	150		216		216	5 L	60 L
A	Acrylonitrile, emulsion		3	UN 1035	3	3	150		216		216	5 L	60 L
	Acrylonitrile, emulsion		3	UN 1035	3	3	150		216		216	5 L	60 L
	Acrylonitrile, emulsion		3	UN 1035	3	3	150		216		216	5 L	60 L
	Acrylonitrile, emulsion		3	UN 1035	3	3	150		216		216	5 L	60 L
	Acrylonitrile, emulsion		3	UN 1035	3	3	150		216		216	5 L	60 L
A	Acrylonitrile, emulsion		3	UN 1035	3	3	150		216		216	5 L	60 L
	Acrylonitrile, emulsion		3	UN 1035	3	3	150		216		216	5 L	60 L
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	Acrylonitrile, emulsion		3	UN 1035	3	3	150		216		216	5 L	60 L
A	Acrylonitrile, emulsion		3	UN 1035	3	3	150		216		216	5 L	60 L
	Acrylonitrile, emulsion		3	UN 1035	3	3	150		216		216	5 L	60 L
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	Acrylonitrile, emulsion		3	UN 1035	3	3	150		216		216	5 L	60 L
	Acrylonitrile, emulsion		3	UN 1035	3	3	150		216		216	5 L	60 L
	Acrylonitrile, emulsion		3	UN 1035	3	3	150		216		216	5 L	60 L
	Acrylonitrile,												

UNODPC

612-302-03

§ 172.101 HAZARDOUS MATERIALS

Symbols	Hazardous materials descriptions and proper shipping names	Hazard class or Division	Identification Numbers	PG	Label Codes	Special provisions
(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Acetone	3	UN1060	II	3	
	Acetone cyanohydrin, stabilized	6.1	UN1541	I	6.1	2, A3, B9, B32, B76, B N34, T38, T
	Acetone oils	3	UN1081	II	3	T7, T
	Acetonitrile	3	UN1848	II	3	T
	Acetyl acetone peroxide with more than 9 percent by mass active oxygen.	Forbidden				
	Acetyl benzoyl peroxide, solid, or with more than 40 percent in solution.	Forbidden				

1 HAZARDOUS MATERIALS TABLE

Label Codes	Special provisions	(8) Packaging (§173.***)			(9) Quantity limitations		(10) Vessel stowage	
		Exceptions	Non-bulk	Bulk	Passenger aircraft/rail	Cargo aircraft only	Location	Other
(6)	(7)	(8A)	(8B)	(8C)	(9A)	(9B)	(10A)	(10B)
2.2		306	306	None	No limit	No limit	A	
3	T7	150	202	242	5 L	60 L	E	
3	A3, B16, T20, T26, T29	None	201	243	Forbidden	30 L	E	
9		155	204	240	200 kg	200 kg	A	34
3	B1, T8	150	203	242	60 L	220 L	A	
8, 9	A3, A6, A7, A10	154	202	243	1 L	30 L	A	



49 CFR (Cont)



§ 172.101

49 CFR Ch. I (10-1-99 Edition)

TABLE 1 TO APPENDIX A—HAZARDOUS SUBSTANCES OTHER THAN RADIONUCLIDES—Continued

Hazardous substance	Reportable quantity (RQ) pounds (kilograms)
Acetanilide	100 (45.4)
Acetanilide, N-(4-nitrophenyl)-	1000 (454)
Acetanilide, N-(4-oxophenyl)-	100 (45.4)
Acetanilide, N-fluoro-2-yl-	1 (0.454)
Acetanilide, 2-fluoro-	100 (45.4)
Acetic acid	5000 (2270)
Acetic acid (2,4-dichlorophenoxy)-	100 (45.4)
Acetic acid, ethyl ester	5000 (2270)
Acetic acid, fluoro-, sodium salt	10 (4.54)
Acetic acid, lead (2-) salt	10 (4.54)
Acetic acid, thallium(1+) salt	1000 (454)
Acetic anhydride	5000 (2270)
Acetone	5000 (2270)
Acetone cyanohydrin	10 (4.54)
Acetonitrile	5000 (2270)
Acetophenone	5000 (2270)
2-Acetylaminofluorene	1 (0.454)
Acetyl bromide	5000 (2270)

In pounds/
kilograms

UIC0000

612-302-03



49 CFR (Cont)



§ 172.101

49 CFR Ch. I (10-1-99 Edition)

S.M.P.	Marine Pollutant	S.M.P.	Marine Pollutant
(1)	(2)	(1)	(2)
PP	Benzyl chloromethyl	PP	Chloropyrophos
	Bisopropyl	PP	Chloropyphos
	N,N-Bis (2-hydroxyethyl) oleamine (LOA)		Coal tar
PP	Bisulfacum		Coal tar naphtha
	Boronic cyanide		Daculus
	Bromacetone		Dacetylols
	Bromocyclopentane		Copper acetoarsenite
	Bromobenzene		Copper arsenite
	ortho-Bromobenzyl cyanide	PP	Copper bromide
	Bromocyclopentane		Copper chloride solution
	Bromocyclopentane	PP	Copper cyanide
PP	Bromocyclopentane	PP	Copper metal powder
	3-Bromopropene	PP	Copper sulphate, anhydrous, hydrates
	Bromoxynil		Coumestrol
	Butanediol	PP	Coumestrol
	2-Butenal, stabilized		Cresols (coal tar)
	Butyl benzenes		Cresols (wood tar)
	Butyl benzyl phthalate		Cresols (o-, m-, p-)
	n-Butyl butyrate	PP	Cresyl diphenyl phosphate
	N-tert-butyl-N-cyclopropyl-N-methyl-N-(1,3,5-triazine-2-yl)-acetate		Cresylic acid

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612-302-03



International Maritime Dangerous Goods Code (IMDGC)



- Regulates International HAZMAT water shipments



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612-302/03



GENERAL INDEX

SUBSTANCE or ARTICLE	IMDG CODE PAGE	UN No.	CLASS	Pack- aging Group	Subsidiary Risk Label(s)	EmS No.	MFAG Table No.
ACETAL ^P	310 ^C	1028	2.1	I	-	3-01	301
- 220 -	317 ^C	1088	3.2	I	-	3-08	380
ACETALDEHYDE ^P	310 ^C	1088	3.1	I	-	3-08	380
ACETALDEHYDE	see 3372	1284	3.3	II	-	3-08	380
ACETALDEHYDE AMYLOXAL	902 ^C	1841	9	II	-	8-07	320
ACETALDEHYDE DIETHYL ACETAL ^P	see 3101	1088	3.1	I	-	3-08	380
- 988 -	see 3171	1288	3.2	4	-	3-06	380
ACETALDEHYDE OXIME	3001	2332	3.3	III	-	3-06	380
ACETALDOL	see 8065	2839	6	II	-	4-02	300
ACETACETAL DOXAL	see 3001	2332	3.3	III	-	3-06	380
ACETIC ACID GLACIAL	8100	2783	8	II	Flammable Liquid	8-04	700
ACETIC ACID SOLUTION, more than 80% acid, by mass	8100	2783	8	II	Flammable Liquid	8-04	700
ACETIC ACID SOLUTION, more than 24% acid, more than 80% acid, by mass	8100	2783	8	I*	-	8-04	700
ACETIC ALDEHYDE ^P	see 3101	1088	3.1	I	-	3-08	380
ACETIC ANHYDRIDE	8101	3175	8	II	Flammable	8-04	700



CLASS 3.2 - Flammable liquids

Intermediate flashpoint group	UN No.	Formula	Explosive Limits	Flashpoint
BENZENE	1114	C_6H_6	1.4% to 8%	-11 °C c.p.
BENZOL	Properties Colourless liquid with a characteristic odour. Freezing point 5 °C, lies below its freezing point. Immiscible with water.			
Packaging group: II	Observations Narcotic. Exposure to this substance may produce serious chronic effects of a toxic nature.			
Label of class	Packing See table 3.4 in the introduction to this class. For IBCs see section 26 of the General Introduction. For tanks see section 13 of the General Introduction.			
3	Stowage Category B. Clear of living quarters.			
	Packing, Stowage & Segregation See table 3.4 in the introduction to this class.			

CLASS 3 - Flammable liquids

3.4

Packaging specifications

Note: For volatile liquids in packaging group III see 3.3.4

Inner receptacle(s)	Outer packaging	Maximum gross mass or maximum liquid contents			
		Packaging group	Low flashpoint	Intermediate flashpoint	High flashpoint
Carboy, glass, maximum contents 60 litres	Wooden box (4C), (4D), (4F)	I, II	prohibited	prohibited	75 kg
		III	not applicable	not applicable	75 kg
	Fibre drum (11A)	I, II	prohibited	prohibited	75 kg
Carboy, glass, maximum contents 25 litres	Moulded expanded plastic box (4H1)	I, II	not applicable	not applicable	75 kg
		III	40 kg	40 kg	40 kg
			not applicable	not applicable	55 kg
Receptacles, glass, maximum contents 10 litres	Wooden box (4C), (4D), (4F)	I, II	prohibited	125 kg	125 kg
		III	not applicable	not applicable	225 kg
	Solid plastic box (4H3)	I, II	prohibited	125 kg	125 kg
Receptacles, glass, maximum contents 5 litres	Wooden box (4C), (4D), (4F)	I, II	not applicable	not applicable	225 kg
		III	125 kg	125 kg	125 kg
	Fibreboard box (4G1)	I, II	40 kg	40 kg	40 kg
	Moulded expanded plastic box (4H1)	I, II	not applicable	not applicable	55 kg
		III	40 kg	40 kg	40 kg
	Solid plastic box (4H3)	I, II	not applicable	not applicable	55 kg
Cans, metal, maximum contents 30 litres	Wooden box (4C), (4D), (4F)	I, II	75 kg	125 kg	125 kg
		III	not applicable	not applicable	225 kg
	Fibreboard box (4G1)	I, II	40 kg	40 kg	40 kg
		III	not applicable	not applicable	55 kg



International Air Transport Association (IATA) – Dangerous Goods Regulations (DGR)



- Regulates dangerous goods shipments via commercial air





TM 38-250/ AFJMAN 24-204



- Regulates dangerous goods shipments via military air

- This is a joint service publication





TM 38-250 (Cont)



SYM- BOL (1)	PROPER SHIPPING NAME/DESCRIPTION (2)	HAZARD CLASSIFY (3)	UNIT NUMBER (4)	PG RISK (5)	SUBSIDIARY RISK (6)	SPECIAL PROVISION (7)	PACKAGING PARAGRAPH (8)
	<i>Acetallene, see G.</i>						
	NITROSOBENZYLAMINE:						
	<i>Accumulators, electric, see BATTERIES, WET, etc.</i>						
D	ACCUMULATORS, PRESSURIZED, PNEUMATIC or HYDRAULIC (containing nonflammable gas) see also ARTICLES, PRESSURIZED, etc.	2.2	NA1556			P5	A6.9
	ACETAL	3	UN1666	II		P5	A7.3
	ACETALDEHYDE	3	UN1066	I		P5, A3	A7.3
	ACETALDEHYDE AMMONIA	9	UN1841	III		P5	A13.13
	ACETALDEHYDE OXIME	3	UN2532	III		P5	A7.3
	ACETIC ACID, GLACIAL or ACETIC ACID SOLUTION, with more than 80% acid, by mass	3	UN2789	II		P5, A3, A6, A7, A10	A12.3
	ACETIC ACID SOLUTION, with more than 10%, but not more than 80% acid, by mass	3	UN2790	II		P5, A3, A6, A7, A10	A12.3
	ACETIC ANHYDRIDE	3	UN1715	III	1	P5, A3, A6, A7, A10	A12.3
	<i>Acetic anhydride, see ACETIC ANHYDRIDE.</i>						
	<i>Acetone, see ACETYL METHYL CARBINOL.</i>						
	ACETONE	3	UN1090	II		P5	A7.3
	ACETONE CYCLOHEXYLEN, STABILIZED	3	UN1451	I		P2, 2, A3, A14 A10.7	

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612-302-03



Multiple Regulations



- Each of these covers a different Transportation Mode. Be sure to use all that apply.





2000 Emergency Response Guidebook (ERG2000)



- A guidebook for first responders during the initial phase of a hazardous materials / dangerous goods incident





ERG2000 -- Yellow



- Yellow section: Index list of dangerous goods in numerical ID number order

ID No.	Guide No.	Name of Material
1090	127	Acetone



ERG2000 -- Blue



- Blue section: Index list of dangerous goods in alphabetical order of substance name

Name of Material	Guide No.	ID No.
Sulfuric acid	137	1830



ERG2000 -- Orange



- Orange section: Safety recommendations & emergency response information for dangerous substances identified by guide number including:
 - Potential Hazards: lists any fire, explosion & health effects of substances that must be handled immediately



ERG2000 – Orange (Cont)



- Orange section (Cont):
 - Public Safety: tells response team the immediate isolation distances, protective clothing recommendations & suggested evacuation distances
 - Emergency Response: Provides guidance & activities for fire, spill or leak incidents & first aid procedures



ERG2000 -- Green



- **Green** section: Index list by numerical ID number of only those substances which are poisonous by inhalation
 - Includes initial isolation & protective action distances
- Remember: This publication should not be used to determine proper compliance



Unit HAZMAT Responsibilities



Unit Responsibilities



- Purpose is to provide guidance and send "Flags" to UMO's that certain equipment & materials may be defined as hazardous material.
- Some Items that are commonly shipped by deploying units: Oxygen & Acetylene cylinders; other compressed gases; various batteries & battery acids; mogas, diesel fuel & other POL products; antifreeze; fire extinguishers; mineral spirits, paint & paint thinner.



Unit Responsibilities (Cont)



- Appendix D, FM 55-65 gives direction on tasks that need to be accomplished to comply with HAZMAT regulations
 - ① Determine Proper Shipping Name
 - ② Determine the Hazard Class(s)
 - ③ Determine the mode(s) of transportation
 - ④ Make sure proper labeling is applied



Unit Responsibilities (Cont)



- ⑤ Make sure you select proper packaging
- ⑥ Ensure packaging is properly marked
- ⑦ Prepare packing/load lists as required
- ⑧ Determine the proper placarding of vehicles
- ⑨ Determine the segregation requirements
- ⑩ Ensure water commodity/special handling codes are entered into AUCL



Shipper's Dangerous Goods Checklist



SHIPPER'S DANGEROUS GOODS CHECKLIST FOR NON-RADIOACTIVE BIOLOGICAL SHIPMENTS.

SHIPPER'S DECLARATION FOR DANGEROUS GOODS (DGD).

IS THE FOLLOWING INFORMATION AS PRESENTED ON
A SHIPPER'S DECLARATION OF DANGEROUS GOODS FORM
AND/OR WAYBILL CORRECT AND COMPLETE?

CHECK ALL APPROPRIATE BOXES.

Two copies in English
and in the IATA format ☐
Full name and address
of Shipper ☐
Full name and address
of Consignee ☐

Quantity and Type of Packing.

Number and type of
Packages. ☐
Quantity and unit of
measure per package. ☐ ☐
Packing instruction
number. ☐

YES N/A

Pages numbered and totaled.	<input type="checkbox"/>	Print emergency statement for Infectious Substances	<input type="checkbox"/>	<input type="checkbox"/>
Name of City Airports of departure and destination (may be entered by courier). Delete the word Radioactive and either 'Passenger and Cargo' or 'Cargo Aircraft only'.	<input type="checkbox"/>	Name and Title of signatory, Place and Date indicated.	<input type="checkbox"/>	
Proper shipping Name.	<input type="checkbox"/>	Signature of Shipper.	<input type="checkbox"/>	
(Class 6.2 proper shipping name is INFECTIOUS SUBSTANCE AFFECTING HUMANS). (technical name, Physical state and Risk group may be required).		Amendment or alteration signed by Shipper.	<input type="checkbox"/>	<input type="checkbox"/>
Class or division.	<input type="checkbox"/>	On the Air Waybill.		
UN or ID number preceded by prefix.	<input type="checkbox"/>	The Handling Information box shows:		
Packing Group, Subsidiary Risk, E.G. Dry Ice	<input type="checkbox"/>	"Dangerous goods as per attached Shippers Declaration". Cargo Aircraft Only, if applicable.	<input type="checkbox"/>	<input type="checkbox"/>
		Packing conforms with packing instructions and is undamaged.	<input type="checkbox"/>	



Shipment Papers



- 49 CFR requires every shipment of HAZMAT be accompanied by shipping papers & a shipper's certification
 - Must be legible
 - Printed mechanically or manually
 - Printed in English
- The description must include:
 - Proper shipping name entered first or in contrasting color





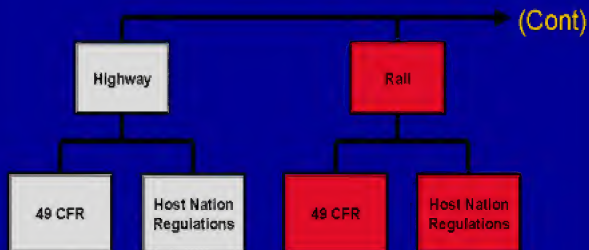
Shipment Papers (Cont)



- The description must include (Cont):
 - Hazardous class or division
 - Identification Number
 - Packing Group in Roman numerals
 - Total quantity
 - Emergency response telephone number
- } In that order



HAZMAT Regulations by Mode

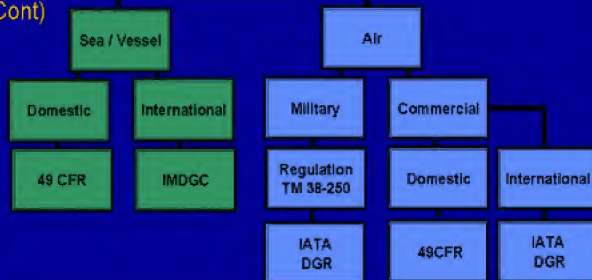




HAZMAT Regulations by Mode (Cont)



(Cont)





DD Form 836



- Provides emergency response instructions to drivers of all organic vehicles transporting explosives or hazardous materials on public roads

[illegible]

012502-03

HAZMAT//HAZMAT//HAZMAT//HAZMAT//HAZMAT//HAZMAT

1. a. NOREDUCED COPY		b. CONTAINER TALLIED		c. SEAL NUMBER																											
1. SHIPPER'S		2. SHIPPER'S		3. SHIPPER'S																											
DANGEROUS GOODS SHIPPING PAPER/DECLARATION AND EMERGENCY RESPONSE INFORMATION FOR HAZARDOUS MATERIALS TRANSPORTED BY GOVERNMENT VEHICLES/CONTAINERS OR VESSEL																															
2. SHIPPER/ADDRESS/TELEPHONE NO.		3. LOCATION AND DATE WHEN PREPARED		4. DATE OF TRAVEL																											
		P1 Entry via DDDMMYY		DDMMYY																											
				5. PAGE 1 OF 1 PAGES																											
6. CARGO (To be completed by the unit or shipper Transportation Office (T.O.))																															
<table border="1"> <thead> <tr> <th rowspan="2">PROPER SHIPPING NAME (Include I.D. No. for all classes, & additional information from 49 CFR 173.24, as required.)</th> <th rowspan="2">HAZARD CLASS</th> <th rowspan="2">ID NUMBER</th> <th rowspan="2">PAK CODE</th> <th colspan="2">PACKAGING</th> <th rowspan="2">NET TOTAL WEIGHT & GROSS WT. per</th> <th rowspan="2">TOTAL GROSS WEIGHT</th> </tr> <tr> <th>UNIT</th> <th>QTY</th> </tr> </thead> <tbody> <tr> <td>Cartridges Air Weapons</td> <td>1.2F</td> <td>UN0021</td> <td>0</td> <td>4</td> <td>BX</td> <td>4 Kgs</td> <td>14.63kg</td> </tr> <tr> <td>90, Hexachlorocyclopentadiene Toxic Inhalation Hazard Zone B</td> <td>6.1</td> <td>UN2048</td> <td>1</td> <td>3</td> <td>DR</td> <td>15kg</td> <td></td> </tr> </tbody> </table>						PROPER SHIPPING NAME (Include I.D. No. for all classes, & additional information from 49 CFR 173.24, as required.)	HAZARD CLASS	ID NUMBER	PAK CODE	PACKAGING		NET TOTAL WEIGHT & GROSS WT. per	TOTAL GROSS WEIGHT	UNIT	QTY	Cartridges Air Weapons	1.2F	UN0021	0	4	BX	4 Kgs	14.63kg	90, Hexachlorocyclopentadiene Toxic Inhalation Hazard Zone B	6.1	UN2048	1	3	DR	15kg	
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Cartridges Air Weapons	1.2F	UN0021	0	4	BX	4 Kgs	14.63kg																								
90, Hexachlorocyclopentadiene Toxic Inhalation Hazard Zone B	6.1	UN2048	1	3	DR	15kg																									
(Self personal complete items 7 and 8.)																															
7. PORT OF EMERGENCY (To complete only)		8. SHIP NAME (To complete only)		9. VESSEL NUMBER																											
10. COMMENTS																															
11. REMARKS																															
12. COPY OF EMERGENCY GUIDE NUMBERS ATTACHED (See back of the form.)																															
13. EMERGENCY NOTIFICATION: In all cases of accident, breakdown or fire, prompt notification must be given to shipper or carrier in Item 3.																															
14. HAZARDOUS MATERIALS EMERGENCY RESPONSE NUMBER:																															

DD Form 836



DD Form 626



- Used for inspecting both commercial & government vehicles that move placardable quantities of hazardous material on public roads (FR 55-1)



DD Form 626 (Cont)



- DD Form 626 is used to verify required documentation for government vehicles including:
 - Checking to ensure the driver's military license has been annotated with the HAZMAT training attended

DD Form 626

MOTOR VEHICLE INSPECTION (TRANSPORTING HAZARDOUS MATERIALS)

(Read Instructions before completing this form.)

This form applies to all vehicles which must be marked or placarded in accordance with Title 49 CFR.

1. GOVERNMENT BILL OF LADING/TRANSPORTATION CONTROL NUMBER

SECTION I - DOCUMENTATION

ORIGIN
a.

DESTINATION
b.

2. CARRIER/GOVERNMENT ORGANIZATION

3. DATE/TIME OF INSPECTION

4. LOCATION OF INSPECTION

5. OPERATOR(S) NAME(S)

6. OPERATOR(S) LICENSE NUMBER(S)

7. MEDICAL EXAMINER'S CERTIFICATE*

8. IF (If applicable) or copy

a. HAZARDOUS MATERIALS CERTIFICATE

4. ENG OR EQUIVALENT COMMERCIAL

YES

NO

9. COMMERCIAL DRIVER'S LICENSE

YES

NO

a. VALID LICENSE

5. DRIVER'S VEHICLE INSPECTION REPORT*

a. FIVE CONTRACTOR

c. ROUTE PLAN

6. COPY OF 49 CFR PART 397

b. TRAILER

SECTION II - MECHANICAL INSPECTION

All items shall be checked on empty equipment prior to loading. Items with an asterisk shall be checked on all traveling loaded equipment.

10. TYPE OF VEHICLE(S)

11. VEHICLE NUMBER(S)

12. PART INSPECTED

(If applicable)

ORIGIN

DESTINATION

ORIGIN

DESTINATION

COORDINATE

(1)

a. ENGINE ELECTRICAL SYSTEM

b. EXHAUST SYSTEM

a. WORK OPERATIVE

b. BRAKE SYSTEM

a. STEERING SYSTEM

c. SUSPENSION

a. WINDSHIELD/WIPER

d. LIGHTING DEVICES

a. TIRE(S)

e. CARGO PLAC



Government Bill of Lading



- Used when civilian company is moving government goods
- Note that a DD Form 626 is also required for HAZMAT shipments.

The image shows a sample of a Government Bill of Lading form, DD Form 1155. The form is titled "GOVERNMENT BILL OF LADING" and contains several sections for data entry. Key sections include:

- SHIPPER'S INFORMATION:** Fields for shipper's name, address, and contact information.
- CONSIGNEE'S INFORMATION:** Fields for consignee's name, address, and contact information.
- DESCRIPTION OF GOODS:** A large section for describing the goods being shipped, including quantity, weight, and dimensions.
- HAZARD INFORMATION:** A section for indicating if the goods are hazardous, with fields for hazard class, hazard label, and hazard statement.
- PACKAGING INFORMATION:** Fields for indicating the type of packaging used, such as boxes, drums, or bulk.
- DATE AND PLACE OF SHIPMENT:** Fields for the date and location where the goods were shipped.
- SHIPMENT STATUS:** A section for indicating the status of the shipment, such as "Shipped" or "Not Shipped".
- Barcode:** A barcode is present in the center of the form, used for tracking the shipment.

The form is a standard document used by the Department of Defense for tracking and managing government property.

U.S. GOVERNMENT BILL OF LADING		MEMORANDUM		BL NO. 2-2255614	
1. TRANSHIPMENT COMPANY TENDERS TO DELIVERY ADDRESS: 100-100-100		2. DATE OF PREPARATION 1970-01-01		3. TRANSHIPMENT COMPANY NUMBER 100-100-100	
4. DESTINATION (Name, address, and ZIP code) MARINE AIR STATION TRAFFIC MANAGEMENT REG. NO. 149 COLUMBIA, SOUTH CAROLINA 29204		5. SPS: Item 1 1 (SPL) (SPL) (SPL) 1 (SPL) (SPL) (SPL)		6. ORIGIN (Name, address, and ZIP code) 100-100-100 100-100-100 100-100-100	
7. CONVEYANCE (Name, address, and ZIP code of location) MARINE AIR STATION TRAFFIC MANAGEMENT REG. NO. 149 COLUMBIA, SOUTH CAROLINA 29204		8. (SPL) (SPL) (SPL) 1 (SPL) (SPL) (SPL)		9. STATION (Name, address, and ZIP code) 100-100-100 100-100-100 100-100-100	
10. AFFILIATION (Name, address, and ZIP code) 100-100-100		11. (SPL) (SPL) (SPL) 1 (SPL) (SPL) (SPL)		12. (SPL) (SPL) (SPL) 1 (SPL) (SPL) (SPL)	
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UNODC

612-302-03



Shippers Certification



- 49 CFR, Para 172.204 - "...each person who offers a hazardous material... shall certify that the material is offered in accordance with this subchapter by printing (manually or mechanically) on the shipping paper containing the required shipping description the certification"



Shippers Certification (Cont)



- "This is to certify that the ('above-named' or 'herein-named') materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulation of the Department of Transportation"
- There are several ways to word the certification. consult Para 172.204 for variations, i.e., air.

612-302-03

SHIPPER'S DECLARATION FOR DANGEROUS GOODS

Shipper

ABC Company
1000 High Street
Vancouver, Ontario
Canada

Air Waybill No.

000 1004 5656

Page 1 of 1 Pages

Shipper's Reference Number
(optional)

Consignee

XYZ Co.
50 Rue de la Paix
Paris 75 001
France

For optional use
for
Company logo
name and address

Pro completed and signed copies of this Declaration must
be handed to the consignee.

WARNING

TRANSPORT DETAILS

This shipment is within the
limitations prescribed for
(check or non-applicable)

Airport of Departure

Vancouver

PERMITTED
UNPERMITTED
UNCLASSIFIED

CARGO
AIRCRAFT
ONLY

Airport of Destination

Paris, Charles de Gaulle

Failure to comply in all respects with the applicable
Dangerous Goods Regulations may be in breach of
the applicable law, subject to legal penalties. This
Declaration must not, in any circumstances, be
completed and/or signed by a consignor, a
forwarder or an IATA cargo agent.

Shipped by (to be completed by the shipper)
NON-REACTIVE (check or non-applicable)

STATEMENT AND QUANTITY OF DANGEROUS GOODS

Dangerous Goods Identification

Proper Shipping Name	Class or Div No.	Sub- class or ID No.	UN No.	Quantity and type of packing	Packing Inst.	Authorization
Acetone	3.1	60818/4	11	1 Steel drum 20 L	617	
Self-heating solid type D (Polystyrene, Schenckwurst)	3.1	60822/6	11	1 Fiberboard box x 10 kg	430	



Convoy to APOE



- Deploy by:

- Surface



DD
Form
626

DD
Form
836

Regulations
49 CFR
DOD 4500.9-R, Part II



- Air



Shippers
Declaration
for
Dangerous
Goods

Regulations
TM 38-250
IATA

Note: Three separate HAZMAT forms are required



Convoy to SPOE



- Deploy by:

- Surface



DD
Form
626

DD
Form
938

Regulations
49 CFR
DOD 4500.9-R, Part II



- Sea



Shippers
Declaration
for
Dangerous
Goods

Regulation
IMDGC

Note: Three separate HAZMAT forms are required



Commercial Truck / Rail to APOE



- Deploy by:

- Com'l Surface



Regulation
49 CFR
FR 55-1
DOD 4500.9-R,
Part II

- Air



Regulations
TM 38-250
IATA

Note: Three separate HAZMAT forms are required

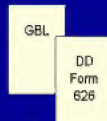


Commercial Truck / Rail to SPOE



- Deploy by:

- Com'l Surface



Regulation
49 CFR
FR 55-1
DOD 4500.9-R,
Part II

- Sea



Regulation
IMDGC

Note: Three separate HAZMAT forms are required



Emergency Response Information



- Emergency response information provided on shipping documents must be printed in English and include:
 - A 24-hour emergency response telephone number (with area code & international access codes) monitored at all times by a person who is knowledgeable in the material and emergency response procedures



Training Requirements



- Mandatory for all involved with preparation, shipment or certification of HAZMAT for transportation
- Training documented in personnel records until 90 days following separation from DOD
- HAZMAT training is good for 2 years, then refresher courses are required
- Certifier and packaging personnel are appointed in writing by unit commander



Certification Training Requirements



- Certification training must be accomplished at one of four DOD schools located at:
 - U.S. Army Defense Ammunition Center, Savanna, IL
 - School of Military Packaging Technology, Aberdeen Proving Grounds, MD
 - Navy Supply Corps School, Athens, GA
 - 345 TRS / TTTD, Lackland AFB, TX



Hazardous Materials Information



Classifying HAZMAT



- Three steps to proper HAZMAT Classification:
 - ① Correctly identify & classify material into one of the nine Hazard Classes
 - ② Determine any subsidiary risks
 - ③ Assign the item to one of the 3 Packing Groups, if applicable
- Note: A single material may fall into several hazard classes



Identifying HAZMAT



- HAZMAT must be identified by its Proper Shipping Name as listed in the appropriate modal regulation
 - Trade Names (for example, "Drop Dead Fly Trap") are NOT considered proper shipping names
 - Pesticides, solid, toxic, n.o.s. would be the Proper Shipping Name for the above product



Identifying HAZMAT (Cont)



- HAZMAT must also be identified by the Chemical Name of the primary hazardous ingredient & proper ID number
 - Example: Dithiocarbamate pesticide, solid, poisonous UN2771
- Packing Group (if applicable) must also be identified



Identifying HAZMAT (Cont)



- Packing Groups (PG): indicate degree of danger presented by the material
 - PG I: Great Danger
 - PG II: Medium Danger
 - PG III: Minor Danger



Identifying HAZMAT (Cont)



- Packing Group classification example:

- Hydrogen Peroxide:

Pure -100%: = PG I

7-10% Diluted: = PG II

50 -70% Diluted: = PG III





Identifying HAZMAT (Cont)



- ID numbers are not required for:
 - Limited Quantity



- Consumer Commodity ORM-D





Hazardous Material Class Labels





9 Hazard Classes



- Class 1 - Explosives
 - Divisions 1.1 - 1.6
 - Examples: Cartridges for weapons, signal flares, safety fuses, dynamite, fireworks
- Class 2 - Gases
 - Division 2.1 Flammable Gas
 - Examples: Butane, hydrogen, aerosols





9 Hazard Classes (Cont)



- Class 2- Gases (Cont)
 - Division 2.2 Non-flammable Gas
 - + Examples: Liquefied nitrogen, helium
 - Division 2.3 Toxic Gas
 - + Examples: Aerosols of low toxicity & some tear gas devices
- Class 3 - Flammable Liquids
 - By Ocean Divisions 3.1, 3.2 & 3.3
 - + Examples: Paint, gasoline, fuel oil





9 Hazard Classes (Cont)



- Class 4 - Flammable Solid
 - Division 4.1 Flammable Solid
 - Examples: Matches, sulphur, Nitronaphthalene
 - Division 4.2 - Spontaneously Combustible
 - Examples: White or yellow phosphorus, magnesium diamide
 - Division 4.3 Dangerous When Wet
 - Examples: Calcium carbide, sodium, lithium





9 Hazard Classes (Cont)



- Class 5 - Oxidizing Substances & Organic Peroxides
 - Division 5.1 Oxidizer
 - Examples: Ammonium nitrate fertilizer, pool chlorine
 - Division 5.2 Organic Peroxides
 - Examples: MEK peroxide, dibenzoyl peroxide





9 Hazard Classes (Cont)



- Class 6 - Poisonous (Toxic) Substances & Infectious Substances
 - Division 6.1 Poisonous (toxic) substances
 - + Examples: Nicotine, cyanide, arsenic
 - Division 6.2 Infectious Substances
 - + Examples: Diagnostic specimens, biological products





9 Hazard Classes (Cont)



- Class 7 - Radioactive Materials
 - Examples: Medicines, instruments
- Class 8 - Corrosives
 - Examples: Battery acid, mercury





9 Hazard Classes (Cont)



- Class 9 - Miscellaneous Dangerous Goods
 - Examples: Dry ice, cosmetics, life rafts, asbestos, magnetized materials, consumer commodities, other regulated substances, internal combustion engines, motor vehicles





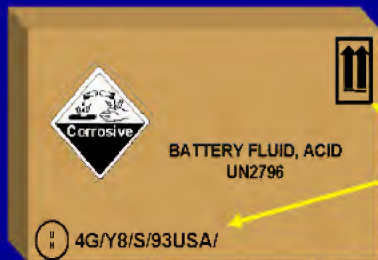
HAZMAT Packaging & Marking/Labeling



- Use UN or other authorized packaging
- Packaging materials must be compatible with the hazardous material being packaged
- Multiple substances in one package must be compatible with each other
- In addition to shipper/consignee information, HAZMAT shipments require additional marking/labeling



HAZMAT Marking/Labeling



Markings



HAZMAT Marking/Labeling (Cont)



- Markings must be:
 - Durable
 - In English
 - Un-obscured
 - Sharp contrasting background
 - Away from other markings



HAZMAT Marking/Labeling (Cont)



Proper shipping name

Orientation arrows

Hazardous
Label



UN Packaging No.

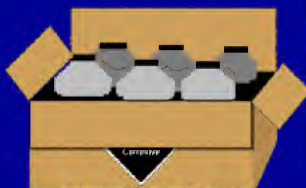
Identification number



Liquid Hazardous Material



- Closures in upright position



Package



Over pack



Package Orientation Arrows



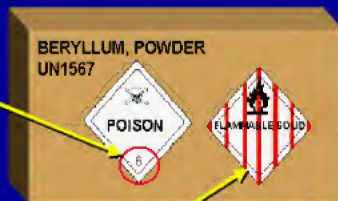
- Orientation arrows must be on two opposite vertical sides oriented in correct upright position



Subsidiary HAZMAT Labeling



- Primary hazard class label with hazard class number



- Subsidiary hazard class label without hazard class number



Special Labels



- Cargo aircraft only





Prohibited Labeling





General Placarding Requirements



Front



Back



Both sides



UMODPC

Not to scale

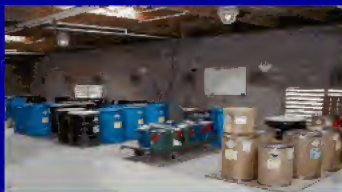
612-302-03



Hazardous Material Compatibility



- Packages containing HAZMAT which might react with one another may not be stowed next to each other
- Know the Hazard Identify





Hazardous Material Compatibility (Cont)



- HAZMAT segregated by Hazard Classification
 - Flammable / Combustible
 - Corrosives (acids / bases)
 - Oxidizers
 - Compressed Gases
- Use DLA Inst 4145.11 as a guide





Hazardous Material Compatibility (Cont)



- Incompatible = “unwanted reaction”
- Incompatible mixtures may produce:
 - Heat
 - Fire
 - Explosion
 - Toxic gases/vapors

